

## SCOPE OF CLAIMS

1. An X-ray CT apparatus comprising:

X-ray generating means for generating an X-ray;

5 X-ray detecting means arranged opposite to the X-ray generating means for two-dimensionally detecting an X-ray dose which is transmitted through an object to be examined;

holding means for holding the X-ray generating means and the X-ray detecting means so that the object is positioned  
10 therebetween;

first rotation driving means for driving the holding means to rotate along the circumference of the object;

containing means for containing the first rotation driving means attached to the holding means;

15 image processing means for producing an image of the object on the basis of the X-ray dose detected by the X-ray detecting means; and

image display means for displaying the image produced in the image processing means,

20 further comprising;

second rotation driving means to integrally rotate the holding means contained in the containing means and the containing means in a manner that the rotation center of the second rotation driving mean is in parallel with the rotation  
25 center of the first rotation driving means and is located at a different position from that of the first rotation driving means; and

drive control means for controlling the first rotation driving means in a first imaging mode and separately controlling the

first rotation driving means and the second rotation driving means in a second imaging mode.

2. An X-ray CT apparatus according to claim 1, wherein the  
5 drive control means performs the control for execution of each of the first imaging mode and the second imaging mode.

3. An X-ray CT apparatus according to claim 1, wherein the  
10 image processing means reconstructs a two-dimensional tomographic image or a three-dimensional image of the object in the first imaging mode, and reconstructs a panoramic image of the object in the second imaging mode.

4. An X-ray CT apparatus according to claim 1, wherein  
15 each of the rotation center of the first rotation driving means and the second rotation driving means is arranged so that the distance therebetween is determined on the basis of a size of imaging region of the object.

20 5. An X-ray CT apparatus according to claim 1, wherein a rotation angle of the second rotation driving means is determined so that each of the holding means and the first rotation driving means is located in a predetermined imaging region of the object.

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6. An X-ray CT apparatus according to claim 1, wherein in the case of executing the second imaging mode, differences in an expansion ratio of fluoroscopic image of the object, which occur due to differences in the distance between the

circumference and each imaging region of the object, are corrected by an image calculating processing.

7. An X-ray CT apparatus according to claim 1, wherein the  
5 second rotation driving means is rotatable around a center of rotation axis of the rotative arm on a circumference simulating a shape of the imaging region of the object, positions the local X-ray irradiating region in the first imaging mode, and adjusts an imaging direction in the combination of the position of the  
10 irradiating region and a rotation angle of the rotative arm in the second imaging mode.

8. An X-ray CT apparatus according to claim 1, wherein the  
15 second rotation driving means is rotatable around a center of rotation axis of the rotative arm on a circumference simulating a shape of the imaging region of the object, and has a mechanism for varying a diameter of the circumference.

9. An X-ray CT apparatus according to claim 1, wherein by  
20 the locally repeating the first imaging mode plural times along the imaging region of the object with the second rotation driving means, image data in the first imaging mode over the imaging region of the object are acquired, and a panoramic image over the imaging region, a tomographic image or a three-dimensional  
25 image of an arbitrary cross section of the object is reconstructed from the image data.